

## REMARKS

Claims 1-20 are the claims presently pending in the application. No claims have been amended and no new matter has been introduced by this Response. Entry and favorable consideration are respectfully requested.

### I. Response To §102 Rejections

Claims 1-5 and 11-15 stand rejected under 35 U.S.C. §102(e) as being anticipated by Genrich (US Patent 6,055,280, hereafter Genrich). Applicants respectfully traverse the rejections for the following reasons.

#### Genrich

In the Office Action, it appears that the Examiner has recited incorrect elements in claims 1-15 and 11-15 while maintaining the §102 rejections to the claims. Specifically, the Examiner refers to "N data channels" throughout the Office Action when rejecting claims 1-4, and 11-14. In the Response filed on July 15, 2005, claims 1-4 and 11-14 were amended by the Applicant to recite "N shift registers,." in place of "N data channels." As correctly noted by the Examiner, Genrich fails to explicitly disclose a demultiplexer circuit or a method of demultiplexing an incoming modulation signal that utilizes N shift registers. (See OA, ¶18 at pp. 5-6 and ¶ 23 at p. 7). It logically follows, therefore, that Genrich fails to disclose at least two critical features recited in independent claims 1 and 11, as amended by the Response filed on April 15, 2005: 1) a demodulator and a method of demodulating capable of partitioning an incoming modulation signal having data rate R using N shift registers; and 2) a demodulator and a method of demodulating the uses N shift registers having a data rate dependent on the number of shift registers being used to process the incoming modulated signal i.e., R/N. Accordingly, claims 1-15 and 11-15 are believed to be clearly distinguishable over Genrich at least for the reasons noted above.

### II. Response To §103 Rejections

Claims 6-10 and 16-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Genrich in view of Gupta (U.S. Patent No. 6,069,928, hereafter Gupta). Applicants respectfully traverse the rejections for the following reasons.

After a detailed review of Gupta, there does not appear to be sufficient motivation to combine its teachings with or modify the teachings of Genrich to arrive at the present invention.

Moreover, even if the suggested combination of Genrich in view of Gupta is made, the combination fails to teach or suggest all the features recited in claims 6-10 and 16-20.

Genrich

The Examiner has correctly noted in the Office Action that Genrich fails to explicitly disclose “a multiplexer circuit or a method of demultiplexing the incoming modulation signal utilizing  $N$  shift registers.” (See OA, ¶18 at pp. 5-6 and ¶ 23 at p. 7). It logical follows, therefore, that Genrich fails to teach or suggest the demodulator and method of demodulating recited in independent claims 1, 7, 11 and 17, from which claims 6, 8-10, 16 and 18-20 depend. More specifically, independent claims 1, 7, 11 and 17 recite the use of  $N$  shift registers, wherein the shift registers operate at a data rate of  $R/N$ ;  $R$  being the data rate of the incoming signal and  $N$  being the number of shift registers.

Gupta

In the Office Action, the Examiner relies on Gupta for teaching or suggesting the recited “ $N$  shift registers” to render obvious claims 6-10 and 16-20. The Applicants, however, disagree with the Examiner’s conclusions with regard to Gupta.

Gupta is directed to recognizing a synchronization word or flag during data transfers over a noisy communication channel. The synchronization word or flag is recognized by sampling an incoming signal at  $M$  times an expected bit rate and storing the sample values in shift registers. Although Gupta discloses the use of shift registers, the shift registers do not appear to be related to partitioning or demodulating an incoming modulation signal, let alone operate at a data rate of  $R/N$ ;  $R$  being the data rate of the incoming signal and  $N$  being the number of shift registers.

Accordingly, it is difficult to see how one of ordinary skill in the art would be motivated by the teachings Gupta to combine its teaching with or modify the teachings of Genrich to arrive at the present invention. Moreover, even if the combination of Genrich and Gupta was made, the combination fails to teach or suggest all the features recited in claims 6-10 and 16-20. In particular, Genrich and Gupta, individually or in combination, fail to teach or suggest a demodulator and a method of demodulating capable of partitioning an incoming modulation signal having data rate  $R$  using  $N$  shift registers, wherein the  $N$  shift registers have a data rate of  $R/N$ . Therefore, claims 6-10 and 16-20 are believed to be distinguishable over Genrich in view of Gupta for at least the reasons noted above.

III. Conclusion

The Applicants respectfully submit that claims 1-20 of the present application are believed to be in condition for allowance. Accordingly, the Applicants request that the rejections under 35 U.S.C. §102 and §103 be withdrawn and a timely Notice of Allowance be issued in this case. A one-month extension of time accompanies this Response. If any fees are due in connection with this application as a whole, the Commissioner is authorized to deduct such fees from deposit account no. 02-1818. If such a deduction is made, please indicate the attorney docket number PD-201003 (115426-1023) on the account statement.

Respectfully submitted,

HUGHES NETWORK SYSTEMS

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Dated: 1-9-2006